

✓-In a preferred embodiment according the present invention, every card wakes up in the MultiMediaCard mode. If the host intends to communicate with the card(s) connected in the Serial Peripheral Interface mode, then the host begins the normal Serial Peripheral Interface mode initialization procedure by sending (903, Fig. 9) a reset command (CMD0) in the command line CMD or the DataIn line and asserting the CS signal of each card connected to the host. When the CS signal in the communication bus is asserted (negative) by the host during the reception (905, Fig. 9) of the reset command (CMD0) ("YES" 907, Fig. 9), each of the cards in the system will enter the Serial Peripheral Interface mode. All the subsequent communications between the host and the card(s) will then be performed under the Serial Peripheral Interface protocol (923, Fig. 9).

D2 On the other hand, if the host is designed to communicate with the card(s) connected in the MultiMediaCard mode, the above-mentioned Serial Peripheral Interface initialization step (i.e. sending a reset command in the command line CMD or the DataIn line and asserting the CS signal of each card connected to the host) will not be performed ("NO" 907, Fig. 9). However, in the preferred embodiment of the present invention, each card is designed to wake up in the MultiMediaCard mode if it is not set otherwise. Thus, in the present case, the card will remain in the MultiMediaCard mode (911, Fig. 9) and will only accept and respond to MultiMediaCard commands issued by the host. All communications between the host and the card(s), in this case, will be performed under the Multi-Media Card protocol (913, Fig. 9).

Particularly, by performing the mode selection in the card(s) only, the entire mode selection is transparent to the host (911, 921, Fig. 9). In other words, the card of the present invention is able to adapt its communication protocol to hosts running in either mode (i.e. Serial Peripheral Interface mode and MultiMediaCard mode).~

In the Claims:

Please cancel, without prejudice, claims 66-86.

Please add the following new claims:

D3 87. A memory card connectable to a master operating in a first communication protocol, comprising:

an interface for connection to the master for the transfer of data and commands between the host and the memory card;

a memory section for storing said data; and
an interface controller connected to the memory section and the interface,
wherein the interface controller selects said first communication protocol from a plurality of
protocols based solely on an initial reset signal received from the master upon connection to
~~the master~~

Sub F1 88. The memory card of claim 87, wherein the interface comprises a plurality of connection pins and wherein said initial reset command comprises asserting a first signal level to a first connection pins when the host operates in the first protocol and not asserting said the first signal level to the first connection pins when the host does not operate in the first protocol.

89. The memory card of claim 88, wherein said asserting a first signal level is the assertion of a chip select signal and wherein the first protocol is a Serial Peripheral Interface protocol.

90. The memory card of claim 88, wherein the first protocol is a MultiMediaCard protocol.

91. A system comprising:
a host that operates in a first communication protocol; and
a first card connectable to the host for transferring data and commands between the first card and the host, wherein based on signals from the host the first card selects the first protocol from a plurality of protocols in a way transparent to the host.

92. The system of claim 91, wherein the first card selects the first protocol in response to an initial signal from the host when the first card is connected to the host.

93. The system of claim 92, wherein the first card comprises an interface through which the data and commands are transferred, the interface comprising a pin, and wherein the reset signal comprises asserting a signal to said pin that is dependent upon said first protocol.

94. The system of claim 93, wherein said first protocol is a Serial Peripheral Interface protocol and said signal is a chip select signal.

95. The system of claim 93, wherein said first protocol is a MultiMediaCard protocol.

96. The system of claim 91, further comprising:

a second card connectable to the host simultaneously with the first card for transferring data and commands between the second card and the host, wherein the second card selects the first protocol from a plurality of protocols in a way transparent to the host.

97. A method comprising:

connecting a first memory card capable of communicating in a plurality of communication protocols to a first host operating in a first of said plurality of communication protocols;

in response to said connecting the first memory card to the first host, transmitting a reset command from the first host to the first card;

receiving the reset command in the first card; and

the first memory card selecting the first communication protocol for the transfer of data and commands between the first host and the first memory card based solely on the reset command.

98. The method of claim 97, wherein said reset command comprises asserting a chip select signal.

99. The method of claim 98, wherein the first card subsequently remains in said first protocol when the chip select signal is de-asserted.

100. The method of claim 98, wherein the first communication protocol is a Serial Peripheral Interface protocol.

101. The method of claim 97, wherein the first communication protocol is a MultiMediaCard protocol.

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102. The method of claim 97, further comprising:
transferring first data from the first host to the first memory card using the first communication protocol;
disconnecting the first memory card from the first host;
connecting the first memory card to a second host operating in a second of said plurality of communication protocols;
in response to said connecting the first memory card to the second host, transmitting a reset command from the second host to the first card;
receiving the reset command from the second host in the first card;
the first memory card selecting the second communication protocol for the transfer of data and commands between the second host and the first memory card based solely on the reset command from the second host; and
transferring the first data from the first memory card to the second host using the second communication protocol.

103. The method of claim 97, further comprising:
connecting a second memory card capable of communicating in the plurality of communication protocols to the first host while the first memory card is also attached to the first host;
in response to said connecting the second memory card to the first host, transmitting a reset command from the first host to the second card;
receiving the reset command in the second card; and
the second memory card selecting the first communication protocol for the transfer of data and commands between the first host and the second memory card based solely on the reset command.